

REMARKS

Claims 1-16 are pending in this application, with claims 10-16 withdrawn from consideration. By this Amendment, the title is amended for clarity. No new matter is added. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action objects to the title as not descriptive. By this Amendment, the title is amended to obviate this objection. Withdrawal of the objection is respectfully requested.

The Office Action rejects claims 1-9 under 35 U.S.C. §112, second paragraph, as indefinite. Specifically, the Office Action asserts that "predetermined," as recited in claims 1, 4, 6 and 8, is a relative term, rendering the claims indefinite. This rejection is respectfully traversed for the following reasons.

"Predetermined," as variously recited the pending claims, is not a relative term. As provided in the disclosure of the present application, a "predetermined" temperature range refers to a preset range of temperatures, for example, delimited by a maximum and minimum temperature to which a detected temperature is compared (see specification at page 13, lines 10-20 and page 14, lines 12-23). For example, a fuel cell controller performs a mode switching process of switching to a bypassing mode based on whether a detected metal layer temperature is not within a preset temperature range. Because the subject matter of the pending claims is directed to providing a result based on a comparison between a detected temperature and a preset range of temperatures, rather than directed to the actual temperature range itself, no further clarification of "predetermined" is necessary. Withdrawal of the rejection is thus respectfully requested.

The Office Action rejects claims 1, 2, 5 and 9 under 35 U.S.C. §102(b) over Japanese Patent Publication No. JP A-05-299105 to Makihara et al. (hereinafter "Makihara"); rejects claims 3 and 4 under 35 U.S.C. §103(a) over Makihara and further in view of Japanese Patent

Publication No. JP-A-2001-223017 to Aoyama et al. (hereinafter "Aoyama"); rejects claims 6 and 8 under 35 U.S.C. §103(a) over Makihara; and rejects claim 7 under 35 U.S.C. §103(a) over Makihara in view of U.S. Patent No. 7,261,960 to Standke et al. (hereinafter "Standke"). These rejections are respectfully traversed for at least the following reasons.

Makihara fails to disclose a hydrogen permeable metal layer degradation prevention section and a fuel cell controller that operates the permeable metal layer degradation prevention section in response to temperature deviation. The Office Action concedes that this feature is not explicitly recited in Makihara. However, the Office Action asserts that Makihara may consider to inherently disclose this feature, for example, in paragraphs [0036] - [0038]. This assertion is improper for the following reasons.

First, Makihara fails to disclose that partial pressure of hydrogen in an anode channel and the temperature of a hydrogen permeable metal membrane is controlled and monitored. In paragraphs [0036]-[0038], Makihara discloses that, based on a known operating temperature and a known downstream hydrogen content pressure, an effective hydrogen flux may be generated. In other words, Makihara is directed to generating an effective hydrogen flux in a hydrogen reforming process based on some common operating parameters. However, Makihara fails to disclose that any hydrogen membrane temperature and/or hydrogen partial pressure is somehow monitored over a period in time. Rather, in paragraphs [0036]-[0038], Makihara merely sets out to show that an effective hydrogen flux is achievable for typical temperature and pressure parameters.

Second, the Office Action's assertion of inherency is improper. The standard for an assertion of inherency, according to the MPEP, is that it cannot be based on possibilities or probabilities, but rather the allegedly inherent feature must necessarily flow from the teachings of the reference. This standard is simply not met here. For example, the partial pressure of hydrogen in an anode channel may be "controlled" merely by the appropriate

design selection of the various components of a hydrogen reforming apparatus. Further, the assertion that temperature is dependent on the partial pressure of hydrogen in an anode channel does not necessarily lead to the conclusion that Makihara discloses reducing partial pressure of hydrogen in an anode channel based on a detected temperature of hydrogen permeable metal membrane in the manner recited in claim 1. Even if reducing the partial pressure of hydrogen could effect the temperature of the hydrogen permeable metal membrane layer, the partial pressure of hydrogen alternatively may be controlled by other means, for example by measuring the partial pressure of hydrogen in an anode channel directly. Because means other than the particular means recited in claim 1 are available for controlling and/or monitoring the partial pressure of hydrogen in an anode channel, the Office Action's assertion of inherency is improper. Further, none of the other applied references remedy this deficiency in Makihara.

For at least the above reasons, Makihara does not disclose, and would not have suggested, the combinations of all of the features recited in independent claim 1. Further, claims 2-9, which depend from claim 1, are also neither taught, nor would they have been suggested, by Makihara for at least the reasons discussed above as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: March 19, 2009

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